



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1FW

Applicant: Leonard Forbes et al.

Title: STRAINED SEMICONDUCTOR BY FULL WAFER BONDING

Docket No.: 1303.109US1
Filed: July 21, 2003
Examiner: Unknown

Serial No.: 10/623,788
Due Date: N/A
Group Art Unit: 2811

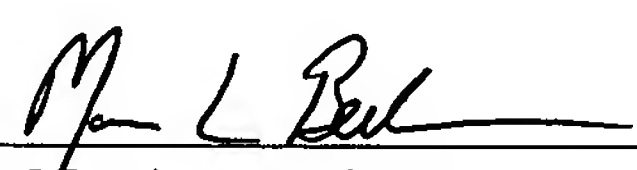
MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

- X A return postcard.
- X A Communication Concerning Related Applications (2 pgs.).
- X A Supplemental Information Disclosure Statement (2 pgs.), Form 1449 (2 pgs.), and copies of 11 cited documents.

If not provided for in a separate paper filed herewith, Please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
Customer Number 21186

By: 
Atty: Marvin L. Beekman
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 4 day of May, 2005.

KACIA LEE
Name

Kacia Lee
Signature

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
(GENERAL)

S/N 10/623,788

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Leonard Forbes et al.

Examiner: Unknown

Serial No.: 10/623,788

Group Art Unit: 2811

Filed: July 21, 2003

Docket: 1303.109US1

Title: STRAINED SEMICONDUCTOR BY FULL WAFER BONDING

COMMUNICATION CONCERNING RELATED APPLICATION(S)

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicants would like to bring to the Examiner's attention the following related application(s) in the above-identified patent application:

| <u>Serial/Patent No.</u> | <u>Filing Date</u> | <u>Attorney Docket</u> | <u>Title</u> |
|--------------------------|--------------------|------------------------|---|
| 10/443355 | May 21, 2003 | 1303.098US1 | SILICON OXYCARBIDE SUBSTRATES FOR BONDED SILICON ON INSULATOR |
| 10/931554 | August 31, 2004 | 1303.093US2 | LOCALIZED STRAINED SEMICONDUCTOR ON INSULATOR |
| 10/931749 | August 31, 2004 | 1303.095US2 | STRAINED SEMICONDUCTOR BY WAFER BONDING WITH MISORIENTATION |
| 10/931344 | August 31, 2004 | 1303.108US2 | GETTERING USING VOIDS FORMED BY SURFACE TRANSFORMATION |
| 10/931553 | August 31, 2004 | 1303.099US2 | ULTRA-THIN SEMICONDUCTORS BONDED ON GLASS SUBSTRATES |
| 10/931580 | August 31, 2004 | 1303.100US2 | MICROMECHANICAL STRAINED SEMICONDUCTOR BY WAFER BONDING |
| 10/979994 | November 3, 2004 | 1303.102US2 | STRAINED Si/SiGe/SOI ISLANDS AND PROCESSES OF MAKING SAME |
| 11/005712 | December 7, 2004 | 1303.034US2 | THREE-DIMENSIONAL PHOTONIC CRYSTAL WAVEGUIDE STRUCTURE AND METHOD |

COMMUNICATION CONCERNING RELATED APPLICATIONS

Serial Number: 10/623,788

Filing Date: July 21, 2003

Title: STRAINED SEMICONDUCTOR BY FULL WAFER BONDING

Page 2

Dkt: 1303.109US1

Continuations and divisionals may be later filed on the cases listed above, or cited to the Examiner in any previous Communication Concerning Related Applications. Applicant requests that the Examiner review all continuations and divisionals of the above-listed or previously-cited patent applications before allowing the claims of the present patent application.

Respectfully submitted,

LEONARD FORBES ET AL.

By Applicants' Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6960

Date 5-4-05 By 
Marvin L. Beekman
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 4 day of May, 2005.

KACIA UEE
Name

Kacia Lee
Signature

S/N 10/623,788



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|-------------|--|-----------------|-------------|
| Applicant: | Leonard Forbes et al. | Examiner: | Unknown |
| Serial No.: | 10/623,788 | Group Art Unit: | 2811 |
| Filed: | July 21, 2003 | Docket: | 1303.109US1 |
| Title: | STRAINED SEMICONDUCTOR BY FULL WAFER BONDING | | |

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Supplemental Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Supplemental Information Disclosure Statement considered.

The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Pursuant to 37 C.F.R. 1.98(a)(2), Applicant believes that copies of cited U.S. Patents and Published Applications are no longer required to be provided to the Office. Notification of this change was provided in the United States Patent and Trademark Office OG Notices dated October 12, 2004. Thus, Applicant has not included copies of any US Patents or Published Applications cited with this submission. Should the Office require copies to be provided, Applicant respectfully requests that notice of such requirement be directed to Applicant's below-signed representative. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).


Respectfully submitted,

LEONARD FORBES ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6960

Date 5-4-05

By 
Marvin L. Beekman
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 4 day of May, 2005.

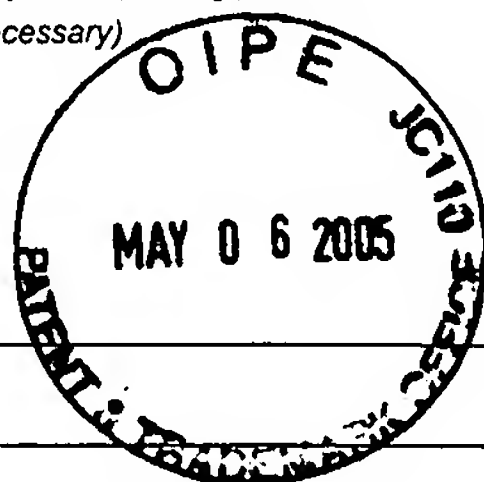
KACIA LEE
Name

Kacia Lee
Signature

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)



Complete if Known

| | |
|----------------------|-----------------|
| Application Number | 10/623,788 |
| Filing Date | July 21, 2003 |
| First Named Inventor | Forbes, Leonard |
| Group Art Unit | 2811 |
| Examiner Name | Unknown |

Sheet 1 of 2

Attorney Docket No: 1303.109US1

US PATENT DOCUMENTS

| Examiner Initial * | USP Document Number | Publication Date | Name of Patentee or Applicant of cited Document | Filing Date If Appropriate |
|--------------------|---------------------|------------------|---|----------------------------|
| | US-2004/0171196-A1 | 09/02/2004 | Walitzki, H J. | 08/07/2003 |
| | US-2004/0173798 | 09/09/2004 | Forbes, Leonard | 03/05/2003 |
| | US-2004/0214366-A1 | 10/28/2004 | Segal, B M., et al. | 05/20/2004 |
| | US-2004/0217352-A1 | 11/04/2004 | Forbes, L. | 04/29/2003 |
| | US-2004/0217391 | 11/04/2004 | Forbes, Leonard | 04/29/2003 |
| | US-2004/0224480-A1 | 11/11/2004 | Forbes, L. | 05/07/2003 |
| | US-2004/0232487-A1 | 11/25/2004 | Forbes, L. | 05/21/2003 |
| | US-2004/0232488-A1 | 11/25/2004 | Forbes, L. | 05/21/2003 |
| | US-2005/0023529-A1 | 02/03/2005 | Forbes, L. | 08/31/2005 |
| | US-2005/0023612-A1 | 02/03/2005 | Forbes, L. | 08/31/2004 |
| | US-2005/0023616-A1 | 02/03/2005 | Forbes, L. | 08/31/2004 |
| | US-2005/0029619-A1 | 02/10/2005 | Forbes, L. | 08/05/2003 |
| | US-2005/0032296-A1 | 02/10/2005 | Forbes, L. | 08/31/2004 |
| | US-5,234,535 | 08/10/1993 | Beyer, Klaus D., et al. | 12/10/1992 |
| | US-5,441,591 | 08/15/1995 | Imthurn, George P., et al. | 06/07/1993 |
| | US-5,877,070 | 03/02/1999 | Goesele, U. M., et al. | 05/31/1997 |
| | US-6,096,433 | 08/01/2000 | Kikuchi, H. , et al. | 02/20/1998 |
| | US-6,103,598 | 08/15/2000 | Yamagata, K. , et al. | 07/11/1996 |
| | US-6,136,666 | 10/24/2000 | So, S. M. | 12/30/1998 |
| | US-6,143,628 | 11/07/2000 | Sato, N. , et al. | 03/25/1998 |
| | US-6,328,796 | 12/11/2001 | Kub, F. J., et al. | 02/01/1999 |
| | US-6,455,397 | 09/24/2002 | Belford, Rona E. | 11/09/2000 |
| | US-6,486,008 | 11/26/2002 | Lee, T. | 08/01/2000 |
| | US-6,497,763 | 12/24/2002 | Kub, F. J., et al. | 01/19/2001 |
| | US-6,514,836 | 02/04/2003 | Belford, Rona E. | 06/04/2001 |
| | US-6,515,335 | 02/04/2003 | Christiansen, S. H., et al. | 01/04/2002 |
| | US-6,649,492 | 11/18/2003 | Chu, Jack O., et al. | 02/11/2002 |
| | US-6,689,671 | 02/10/2004 | Yu, B , et al. | 05/22/2002 |
| | US-6,703,293 | 03/09/2004 | Tweet, D. J., et al. | 07/11/2002 |
| | US-6,703,648 | 03/09/2004 | Xiang, Q. , et al. | 10/29/2002 |
| | US-6,740,913 | 05/25/2004 | Doyle, B. S., et al. | 11/09/2001 |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Foreign Document No | Publication Date | Name of Patentee or Applicant of cited Document | T ² |
|--------------------|---------------------|------------------|---|----------------|
| | JP-54-152464A | 11/30/1979 | Kotani, T. | |
| | JP-54-155770A | 12/08/1979 | Kobayashi, S. | |

EXAMINER**DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

| | |
|-----------------------------|-----------------|
| Application Number | 10/623,788 |
| Filing Date | July 21, 2003 |
| First Named Inventor | Forbes, Leonard |
| Group Art Unit | 2811 |
| Examiner Name | Unknown |

Sheet 2 of 2

Attorney Docket No: 1303.109US1

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|-----------------------|--------------------------|---|----------------|
| | | AUBERTON-HERVE, A. J., "SOI: Materials to Systems", <u>Digest of the International Electron Device Meeting</u> , San Francisco, (December 1996), 3-10 | |
| | | BALL, PHILIP, "Why microchips weigh over a kilogram: A small mountain of materials goes into every microchip", <u>Nature Science Update</u> , http://www.nature.com/nsu/021028/021028-12.html , (November 2, 2002), 1-2 | |
| | | CARTAGENA, E., "Bonded Etchback Silicon on Sapphire Bipolar Junction Transistors", <u>Extended Abstracts - Electrochemical Society (1)</u> , Program and Abstracts: 183rd Meeting of the Electrochemical Society, Pennington, NJ, (1993), 1199-1200 | |
| | | DHARMATILLEKE, S N., et al., "Anodic Bonding of Glass to Glass and Silicon to Glass or Silicon to Silicon Through a Very Thick Thermally Grown SiO ₂ Layer", <u>Proceedings of IS 3M International Symposium on Smart Structures and Microsystems</u> , http://dolphin.eng.uc.edu/projects/bonding/paper.pdf , (2000), 32 | |
| | | IMTHURN, GEORGE P., et al., "Bonded Silicon-on-Sapphire Wafers and Devices", <u>Journal of Applied Physics</u> , 72(6), (September 1992), 2 526-7 | |
| | | LU, X., et al., "SiGe and SiGeC Surface Alloy Formation Using High-Dose Implantation and Solid Phase Epitaxy", <u>Proceedings of the 11th International Conference on Ion Implantation Technology</u> , Austin, TX, (1997), 686-689 | |
| | | REINHOLD PUBLISHING CO., "Comparisons of Materials: Coefficient of Thermal Expansion", <u>Reprinted with permission from "Materials Selector"</u> , Reinhold Publishing Co., Penton/IPC, http://www.handyharmancanada.com/TheBrazingBook/comparis.htm | |
| | | RENLUND, G., "Silicon oxycarbide glasses: Part II. Structure and properties", <u>Journal of Materials Research</u> , 6(12), (December 1991), 2723-2734 | |
| | | SUNI, T., et al., "Effects of Plasma Activation on Hydrophilic Bonding of Si and SiO ₂ ", <u>Journal of the Electrochemical Society</u> , 149, (2002), G348-51 | |

EXAMINER**DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.¹ Applicant's unique citation designation number (optional) ² Applicant is to place a check mark here if English language Translation is attached